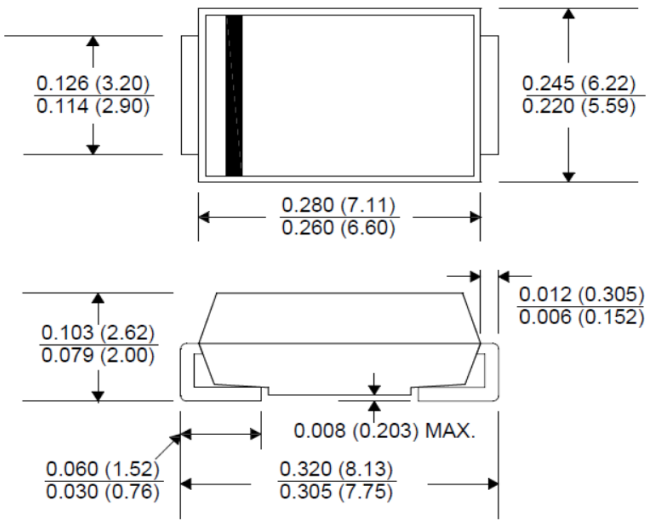
1.5SMC6.8 thru 1.5SMC550

SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR

DO-214AB (SMC J-Bend)



Dimensions in inches and(millimeters)

Agency	Agency File Number
	E521119

PRIMARY CHARACTERISTICS	
V_{RWM}	5.8V to 495V
V_{BR}	6.45V to 577.5V
P_{PPM}	1500W
T_J max	150°C
Polarity	Uni-directional & Bi-directional
Package	DO-214AB

FEATURES

- For surface mounted applications in order to optimize board space
- Typical maximum temperature coefficient △VBR=0.1%xVBR@25°C x△T
- Low profile package
- Built-in strain relief
- Glass passivated junction
- Excellent clamping capability
- Repetition Rate (duty cycle):0.01%
- Fast response time: typically less than 1.0ps from 0 Volts to BV
- Meet MSL1 Level, per J-STD-020, LF maximum peak of 260 ℃
- Plastic package has Underwriters Laboratory Flammability 94V-0
- Matte Tin Lead-free plated

Green

MECHANICAL DATA

Case: JEDEC DO-214AB. Molded plastic
Terminal: Solderable per MIL-STD-750, Method 2026
Polarity: Color band denoted positive end (cathode) except Bidirectional

DEVICES FOR BIPOLAR APPLICATION

- For Bidirectional use Suffix CA for types 1.5SMC6.8CA thru types 1.5SMC550CA
- Electrical characteristics apply in both directions

MAXIMUM RATINGS (25°C ambient temperature unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation on 10/1000μs waveform (Note 1，2)	P_{PPM}	1500	Watts
Peak Pulse Current of on 10/1000μs waveform(Note 1)	I_{PPM}	See Next Table	Amps
Peak Forward Surge Current,8.3ms Single Half Sine-Wave(Note 2，3)	I_{FSM}	200	Amps
Operating junction and Storage Temperature Range	T_J T_{STG}	-55 to +150	°C
Typical Thermal Resistance Junction to Lead	$R_{\theta JL}$	15	°C/W
Typical Thermal Resistance Junction to Ambient	$R_{\theta JA}$	75	°C/W

Note

(1) Non-repetitive current pulse above T_A = 25 °C
(2) Mounted on 8.0mm x 8.0mm Copper Pads to each terminal
(3) 8.3ms single half sine-wave, or equivalent square wave, Duty cycle = 4 pulses per minutes maximum

ELECTRICAL CHARACTERISTICS

PART NUMBER		MARKING CODE		TEST CURRENT IT (mA)	BREAKDOWN VOLTAGE VBR(V) @IT		REVERSE STAND-OFF VOLTAGE V_{RWM}(V)	MAXIMUM CLAMPING VOLTAGE @Ipp Vc(V)	MAXIMUM PEAK PULSE CURRENT Ipp (A)	MAXIMUM REVERSE LEAKAGE @ V_{RWM} I_R (µA)
UNI- POLAR	BI-POLAR	UNI	BI		MIN	MAX				
1.5SMC6.8A	1.5SMC6.8CA	6V8A	6V8C	10	6.45	7.14	5.8	10.5	144.8	1000.0
1.5SMC7.5A	1.5SMC7.5CA	7V5A	7V5C	10	7.13	7.88	6.4	11.3	134.5	500.0
1.5SMC8.2A	1.5SMC8.2CA	8V2A	8V2C	10	7.79	8.61	7.0	12.1	125.6	200.0
1.5SMC9.1A	1.5SMC9.1CA	9V1A	9V1C	1	8.65	9.50	7.8	13.4	113.4	50.0
1.5SMC10A	1.5SMC10CA	10A	10C	1	9.50	10.50	8.6	14.5	104.8	10.0
1.5SMC11A	1.5SMC11CA	11A	11C	1	10.50	11.60	9.4	15.6	97.4	5.0
1.5SMC12A	1.5SMC12CA	12A	12C	1	11.40	12.60	10.2	16.7	91.0	5.0
1.5SMC13A	1.5SMC13CA	13A	13C	1	12.40	13.70	11.1	18.2	83.5	1.0
1.5SMC15A	1.5SMC15CA	15A	15C	1	14.30	15.80	12.8	21.2	71.7	1.0
1.5SMC16A	1.5SMC16CA	16A	16C	1	15.20	16.80	13.6	22.5	67.6	1.0
1.5SMC18A	1.5SMC18CA	18A	18C	1	17.10	18.90	15.3	25.2	60.3	1.0
1.5SMC20A	1.5SMC20CA	20A	20C	1	19.00	21.00	17.1	27.7	54.9	1.0
1.5SMC22A	1.5SMC22CA	22A	22C	1	20.90	23.10	18.8	30.6	49.7	1.0
1.5SMC24A	1.5SMC24CA	24A	24C	1	22.80	25.20	20.5	33.2	45.8	1.0
1.5SMC27A	1.5SMC27CA	27A	27C	1	25.70	28.40	23.1	37.5	40.5	1.0
1.5SMC30A	1.5SMC30CA	30A	30C	1	28.50	31.50	25.6	41.4	36.7	1.0
1.5SMC33A	1.5SMC33CA	33A	33C	1	31.40	34.70	28.2	45.7	33.3	1.0
1.5SMC36A	1.5SMC36CA	36A	36C	1	34.20	37.80	30.8	49.9	30.5	1.0
1.5SMC39A	1.5SMC39CA	39A	39C	1	37.10	41.00	33.3	53.9	28.2	1.0
1.5SMC43A	1.5SMC43CA	43A	43C	1	40.90	45.20	36.8	59.3	25.6	1.0
1.5SMC47A	1.5SMC47CA	47A	47C	1	44.70	49.40	40.2	64.8	23.5	1.0
1.5SMC51A	1.5SMC51CA	51A	51C	1	48.50	53.60	43.6	70.1	21.7	1.0
1.5SMC56A	1.5SMC56CA	56A	56C	1	53.20	58.80	47.8	77.0	19.7	1.0
1.5SMC62A	1.5SMC62CA	62A	62C	1	58.90	65.10	53.0	85.0	17.9	1.0
1.5SMC68A	1.5SMC68CA	68A	68C	1	64.60	71.40	58.1	92.0	16.5	1.0
1.5SMC75A	1.5SMC75CA	75A	75C	1	71.30	78.80	64.1	103.0	14.8	1.0
1.5SMC82A	1.5SMC82CA	82A	82C	1	77.90	86.10	70.1	113.0	13.5	1.0
1.5SMC91A	1.5SMC91CA	91A	91C	1	86.50	95.50	77.8	125.0	12.2	1.0
1.5SMC100A	1.5SMC100CA	100A	100C	1	95.00	105.00	85.5	137.0	11.1	1.0
1.5SMC110A	1.5SMC110CA	110A	110C	1	105.00	116.00	94.0	152.0	10.0	1.0
1.5SMC120A	1.5SMC120CA	120A	120C	1	114.00	126.00	102.0	165.0	9.2	1.0
1.5SMC130A	1.5SMC130CA	130A	130C	1	124.00	137.00	111.0	179.0	8.5	1.0
1.5SMC150A	1.5SMC150CA	150A	150C	1	143.00	158.00	128.0	207.0	7.3	1.0
1.5SMC160A	1.5SMC160CA	160A	160C	1	152.00	168.00	136.0	219.0	6.9	1.0
1.5SMC170A	1.5SMC170CA	170A	170C	1	162.00	179.00	145.0	234.0	6.5	1.0
1.5SMC180A	1.5SMC180CA	180A	180C	1	171.00	189.00	154.0	246.0	6.2	1.0
1.5SMC200A	1.5SMC200CA	200A	200C	1	190.00	210.00	171.0	274.0	5.5	1.0
1.5SMC220A	1.5SMC220CA	220A	220C	1	209.00	231.00	185.0	328.0	4.6	1.0
1.5SMC250A	1.5SMC250CA	250A	250C	1	237.00	263.00	214.0	344.0	4.4	1.0
1.5SMC300A	1.5SMC300CA	300A	300C	1	285.00	315.00	256.0	414.0	3.7	1.0
1.5SMC350A	1.5SMC350CA	350A	350C	1	332.00	368.00	300.0	482.0	3.2	1.0
1.5SMC400A	1.5SMC400CA	400A	400C	1	380.00	420.00	342.0	548.0	2.8	1.0
1.5SMC440A	1.5SMC440CA	440A	440C	1	418.00	462.00	376.0	602.0	2.5	1.0
1.5SMC480A	1.5SMC480CA	480A	480C	1	456.00	504.00	408.0	658.0	2.3	1.0
1.5SMC510A	1.5SMC510CA	510A	510C	1	485.00	535.00	434.0	698.0	2.1	1.0
1.5SMC530A	1.5SMC530CA	530A	530C	1	503.50	556.50	477.0	725.0	2.1	1.0
1.5SMC540A	1.5SMC540CA	540A	540C	1	513.00	567.00	486.0	740.0	2.0	1.0
1.5SMC550A	1.5SMC550CA	550A	550C	1	522.50	577.50	495.0	760.0	2.0	1.0

For bidirectional type having Vrwm of 10 volts and less, the IR limit is double

RATINGS AND CHARACTERISTICS CURVES (T_A = 25℃ unless otherwise noted)

Fig. 1 - Peak Pulse Power Rating

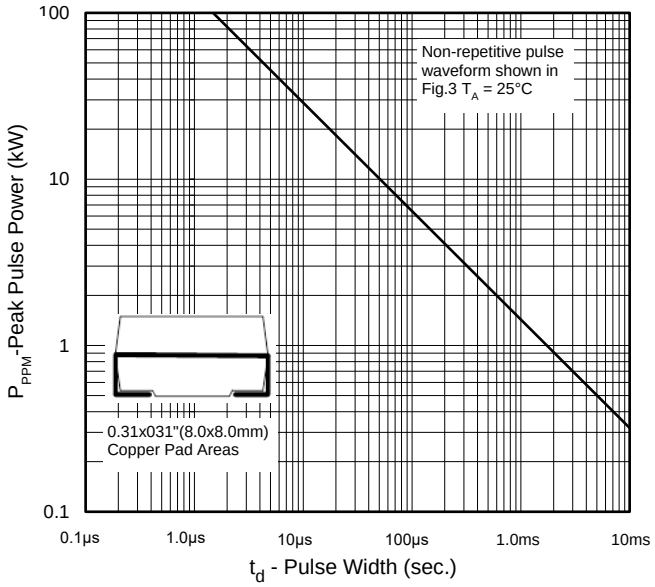


Fig.2 - Pulse Derating Curve

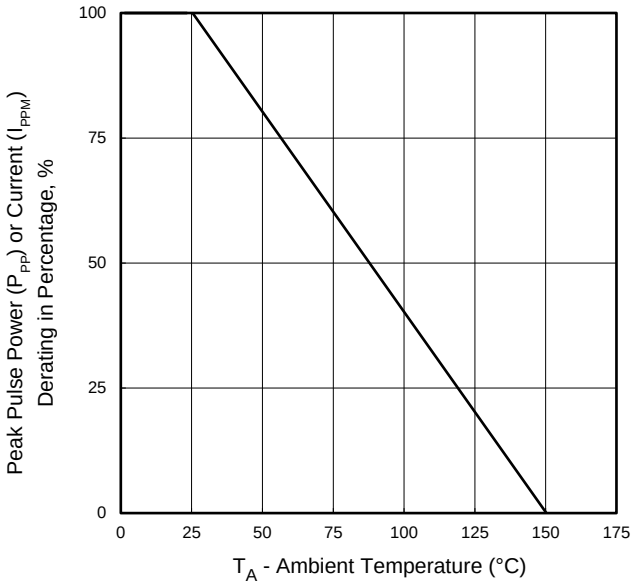


Fig. 3 – Pulse Waveform

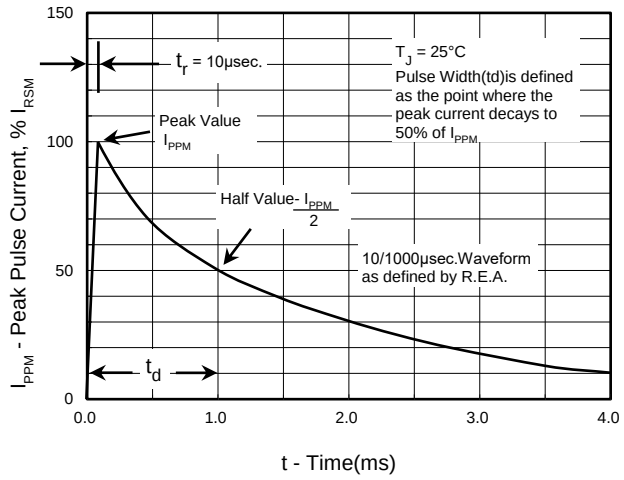


Fig. 4 - Typical Junction Capacitance

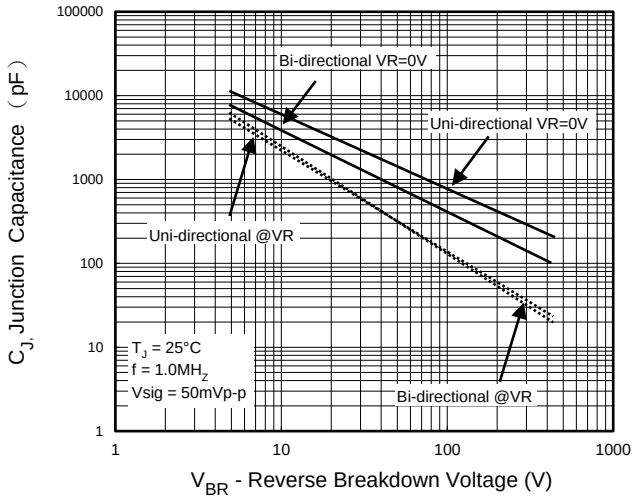


Fig. 5 - Steady State Power Derating Curve

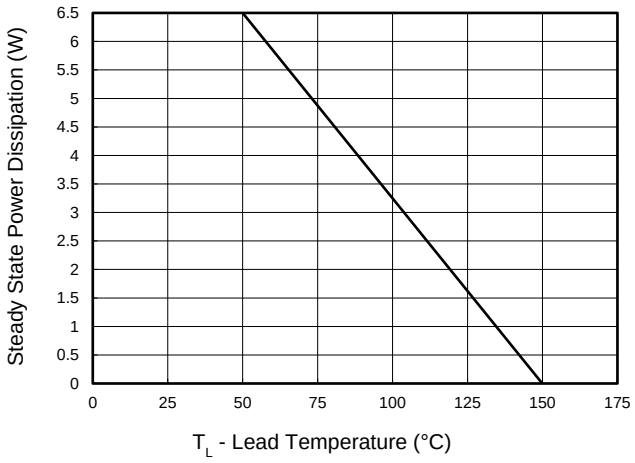
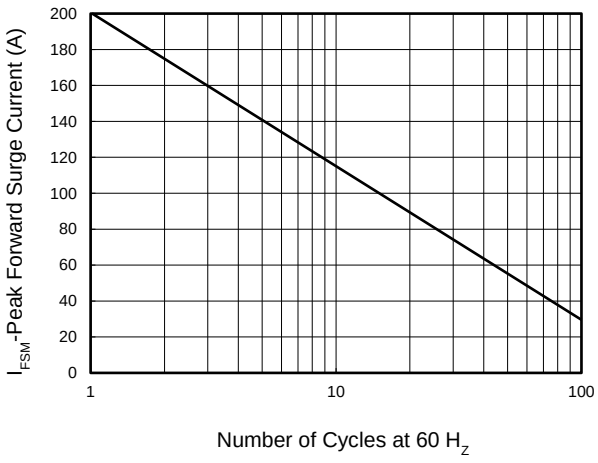


Fig.6 - Maximum Non-repetitive Forward Surge current uni-directional only

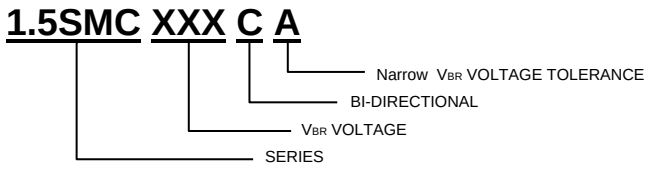
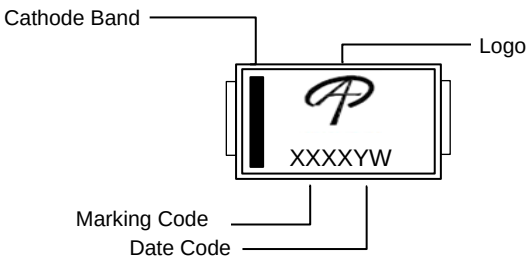


Ordering Information

Part Number	Quantity	Packing Option	Component Package	Packing Specification
1.5SMCxxxA	3000	Tape & Reel - 16mm/13" tape	DO-214AB	EIA STD RS-481

AOS Green Products use reduced levels of Halogens, and are also RoHS compliant.
Please visit www.aosmd.com/media/AOSGreenPolicy.pdf for additional information.

Note: Green Product means Pb-free, RoHS and Halogens free compliant.

Part Number	Part Marking
	

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